

We claim:

1. In a device including plural applications requesting remote resources, a method of managing overlapping connection sessions created to support access to remote resources by said plural applications, the method comprising:

5 receiving a connection request comprising a process identification and saving the process identification in a data structure;

establishing a connection upon receiving a connection request when no connection exists;

10 receiving a disconnection request comprising a process identification and removing the disconnecting process identification from the data structure; and

terminating the connection upon receiving a disconnection request when no process identifications remain in the data structure after removing the disconnecting process identification.

2. The device of claim 1 further comprising:

15 saving a time that a connection request was received;

after a threshold period after the time, removing a process identification from the data structure if a process associated with the process identification has terminated; and

20 terminating the connection when no process identifications remain in the data structure after removing the identification of the terminated process.

3. The device of claim 1 wherein the device is a computer and the connection is a dial-up connection.

4. The device of claim 1 wherein the device is a wireless device and the connection is a wireless connection.

5. The device of claim 4 wherein the wireless device is a telephone.
6. The device of claim 5 wherein the wireless device is a hand held computer.
7. A computerized method comprising:
 - 5 receiving a request for a connection to a remote resource;
saving in a data structure, an identifier of the request for a connection;
upon receiving a request for connection, creating the connection when the connection is not already established;
receiving a request for a disconnection from a remote resource; - 10 deleting from the data structure, an identifier of the request for the disconnection;
disconnecting the connection upon a disconnection request when the deleted identifier is the last identifier of a request for a connection in the data structure.
8. The method of claim 7 further comprising:
 - 15 removing an identifier of a request for a connection from the data structure after a period of time after the request is made if a process associated with the identifier has terminated.
9. The method of claim 7 wherein a request for a connection originates from an application and the remote resource is a web server.
- 20 10. The method of claim 9 wherein the connection is a dial-up connection between a modem and an Internet service provider.

11. The method of claim 7 wherein the method is running on a wireless device with plural applications sending the connection requests and communicating with remote resources over the connection.

12. A computer system comprising:
5 a processor coupled to memory and a hardware device for communicating with remote resources;
software in memory and comprising:
an operating service for receiving system service requests via an application services interface;
10 plural applications requesting remote services from the operating service via the application services interface;
a connection manager for establishing via the hardware device a connection shared by plural applications communicating with remote resources over the connection and for maintaining the connection when an application requests a
15 disconnection while another application is still using the connection.

13. The system of claim 12 wherein the connection manager disconnects the connection when a last application using the connection calls disconnect.

14. The system of claim 12 wherein the connection manager maintains a list of applications that have requested the connection.

20 15. The system of claim 14 wherein the connection manager disconnects the connection when an application requests a disconnect and no other application is on the list.

16. The computer system of claim 12 wherein the system is a personal computer.

17. The computer system of claim 12 wherein the connection is wireless.

18. A computer-readable medium comprising executable instructions for
5 performing a method comprising:
creating a connection when a process request communicating with remote
resources requiring the connection;
storing identifiers of processes requesting communicating with remote resources
via the connection;
10 removing an identifier of a process from the stored identifiers when the process
requests a disconnection;
maintaining the connection when a process requests a disconnection when stored
identifiers indicate another process is communicating with remote resources via the
connection; and
15 disconnecting the connection when a process requests a disconnection when
stored identifiers indicate no other process is communicating with remote resources via
the connection.

19. The computer-readable medium of claim 18 further comprising
executable instructions for removing an identifier of a process from the stored
20 identifiers when the process has terminated.

20. The computer-readable medium of claim 18 further comprising
executable instructions for periodically removing identifiers of processes from the
stored identifiers when the processes have terminated without requesting a disconnect.